

quantity of powdered charcoal is scattered over the cut surfaces to prevent decay. The cutting is again covered with earth as before.

The roots are allowed to continue growth until the end of September, at which time the harvest begins. The cuttings which have been two seasons in the ground, the first year as vertical roots and the second in an oblique position, are by this time large enough for market. In digging the horse-radish a long-bladed mattock or spade is used, which enables the digger to remove not only the obliquely planted cutting, which is the marketable product, but also the new roots from its lower side, of which the cuttings for the next year are to be made.

A more extended account of this culture has been published in Circular No. 20 of the Division of Botany. (*Distributed.*) (Reprinted from Inventory No. 6.)

### 3779-3819.

From Manila, P. I. A collection of seeds collected by Lieut. A. P. Hayne, California Heavy Artillery, U. S. V., and Mr. Jeremiah Rebmann, private, Company B, First Nebraska Volunteers, while serving under an honorary commission from the Secretary of Agriculture, during the period from January 7, 1899, to July 1, 1899. The seeds were received in September, 1899. They are as follows:

#### 3779. ERYTHRINA CANNA FLACCIDA (?).

Collected in the Botanic Garden at Manila, April 15, 1899. Flowers yellow. Tagal name, *Cacientasan*.

#### 3780. TAMARINDUS INDICUS.

**Tamarind.**

Collected at Manila, April, 1899. Tagal name, *Sampaloc*.

"Leaves opposite, abruptly pinnate. Leaflets 12 or more pairs, linear, tapering at apex, entire and smooth. Flowers racemed, blossoming in May. The roots of this tree are esteemed by carpenters as good, or even better, than ebony. Rosaries are made from them. The pulp of the fruit is refreshing; it is also a purgative, taken in doses of 1 or 2 ounces, and is a useful remedy in bilious fevers and in smallpox." (*Blanco; translated by Mrs. Alice Carter Cook.*)

#### 3781. ACACIA FARNESIANA.

**Cassie.**

Collected at Tondo, May, 1899. Local name, *Aroma*.

"Trunk with small, callous points and very long spines. Leaves twice pinnate. The flowers, which appear in January, are yellow, axillary, more than 50 in the globose, long peduncled heads. From each axil two peduncles arise. Tree small, 9 to 12 feet, common in the mountains of Guadalupe, in the province of Batangas, and in many other places. It exudes a transparent, straw-colored gum, said to have medicinal value, and by some is considered equal to gum arabic. The pulp of the fruit is fragrant, but the odor of the cut wood is intolerable. The legumes, when chewed, are very disagreeable. The chief value of the pods is to make a black dye and to make ink. It is said that the bark of the tree is used as a mordant. The flowers also yield a yellow dye. Ink is obtained by sprinkling a little water over the macerated pods and adding a little 'alcaparrosa.' The pulp of the pods is excellent to cure ulcerated eyes, a common and very obstinate complaint, called by the natives 'colitun.'" (*Blanco; translated by Mrs. Alice Carter Cook.*)

#### 3782. POINCIANA REGIA.

**Royal poinciana.**

Collected at Manila, January, 1899. Tagal name, *Arbol de fuego*. (See No. 1915, Inventory No. 5.)

#### 3783. MIMOSA AFZALIOI (?).

Collected at the Botanic Gardens, Manila, January, 1899. Tagal name, *Epil*.

#### 3784. POINCIANA REGIA.

**Royal poinciana.**

Collected at Manila, 1899. (See No. 3782.)

#### 3785. CEIBA CASEANA.

**Cotton tree.**

From Manila. Collected at Calumpit, April, 1899. Tagal name, *Bubac* or *Butac ordmuto*.

"Branches black spotted. A well-known tree 12 to 15 feet high, sometimes living many years. The fruit is smaller than that of the upland cotton. The thread and the cloth made from it are much stronger and more lustrous. It